

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. 2001-NM-268-AD; Amendment 39-12891; AD 2002-19-11]**

**RIN 2120-AA64**

### **Airworthiness Directives; Boeing Model 767-200 and -300 Series Airplanes Powered by Pratt & Whitney JT9D Series Engines**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

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**SUMMARY:** This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing Model 767-200 and -300 series airplanes powered by Pratt & Whitney JT9D series engines, that requires replacement of the existing deactivation pin, aft cascade pin bushing, and pin insert on each thrust reverser half, with new, improved components. This action is necessary to prevent failure of the thrust reverser deactivation pins, which could result in deployment of the thrust reverser in flight and consequent reduced controllability of the airplane. This action is intended to address the identified unsafe condition.

**DATES:** Effective November 5, 2002.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of November 5, 2002.

**ADDRESSES:** The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Technical Information: John Vann, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-1024; fax (425) 227-1181.

Other Information: Judy Golder, Airworthiness Directive Technical Editor/Writer; telephone (425) 687-4241, fax (425) 227-1232. Questions or comments may also be sent via the Internet using the following address: [judy.golder@faa.gov](mailto:judy.golder@faa.gov). Questions or comments sent via the Internet as attached electronic files must be formatted in Microsoft Word 97 for Windows or ASCII text.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to certain Boeing Model 767-200 and -300 series airplanes powered by Pratt & Whitney (P&W) JT9D series engines was published in the Federal Register on November 19, 2001 (66 FR 57904). That action proposed to require replacement of the existing deactivation pin, aft cascade pin bushing, and pin insert on each thrust reverser half, with new, improved components.

## **Comments**

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

## **Support for the Proposed AD**

One commenter supports the proposed AD, and notes that the design of the thrust reverser system on Model 767 series airplanes powered by P&W JT9D series engines is similar to that on Model 767 series airplanes equipped with P&W PW4000 series engines.

## **Disagreement With Proposed AD/Request for Withdrawal**

Two commenters disagree with the proposed AD, and one of these commenters requests that the FAA withdraw the proposal.

Both commenters note that the proposed AD is prompted by partial deployment of the thrust reversers on airplanes equipped with P&W PW4000 series airplanes, and no similar incidents have occurred on airplanes equipped with P&W JT9D series engines. The commenters emphasize that there are significant differences in design and function between the thrust reverser systems on these two engine models. Both commenters point out that, while the thrust reverser system on Model 767 P&W PW4000 series engines incorporates two hydraulic isolation valves—a motorized hydraulic isolation valve for deployment and a hydraulic stow valve for stowage, the thrust reverser system on Model 767 P&W JT9D series engines has only a hydraulic isolation valve, and no motorized isolation valve. The commenters maintain that the differences between the thrust reverser systems on the two engine models make the identified unsafe condition unique to P&W PW4000 series engines.

As further evidence of this, the commenters emphasize that the previous incidents occurred due to improper deactivation of the motorized isolation valve in the thrust reverser system by maintenance personnel who were not properly trained or did not follow procedures for proper deactivation of the thrust reverser system. Finally, both commenters point out that all previous incidents have occurred after landing during a commanded thrust reverser deployment, and they assert that this is not a safety-of-flight concern, but an economic concern (i.e., potential significant damage to the thrust reverser sleeves).

We do not concur with the request to withdraw the proposed AD. Although we recognize that there are differences between the two thrust reverser systems, we find that the similarities between the two thrust reverser systems make airplanes powered by JT9D series engines potentially subject to the identified unsafe condition. We note that the airplane manufacturer also considers these similarities sufficient to create the risk of an in-flight deployment of a thrust reverser.

Also, while we acknowledge that all previous incidents on Model 767 series airplanes powered by P&W PW4000 series engines occurred after landing, the airplane manufacturer has reported an incident of a partial in-flight deployment on a Model 747-400 series airplane powered by P&W PW4000 series engines. That incident has been attributed to improper deactivation of the thrust reverser. When deactivated, the thrust reverser is restrained by locking the hydraulic valve, locking and deactivating the sync lock, and inserting the deactivation pin. However, maintenance crews

occasionally will improperly deactivate the hydraulic valve or sync lock, leaving only the structural integrity of the deactivation pin as protection from in-flight deployment. Considering the criticality of a deployment of a thrust reverser in mid-flight, we consider this a safety-of-flight issue.

Further, we acknowledge the commenters' remarks on training and supervision deficiencies. While increased training and proper supervision can alleviate the noted problems, current levels of training and supervision have not reduced the incidents of improper maintenance to an acceptable level.

For the reasons stated previously, we find that no change to the final rule is necessary in this regard.

### **Acknowledge Errors in the Work Instructions in Service Bulletin**

The commenter that urges us to withdraw the proposed AD (as described in the previous section) states that the Work Instructions in Boeing Alert Service Bulletin 767-78A0089, dated July 19, 2001, cannot be accomplished on the thrust reverser system on Model 767 P&W JT9D series engines. The commenter points out that certain steps in the work instructions refer to components that do not exist on Model 767 P&W JT9D series engines. As noted previously, while the thrust reverser system on Model 767 P&W PW4000 series engines has two hydraulic isolation valves—a motorized hydraulic isolation valve for deployment and a hydraulic stow valve for stowage, the thrust reverser system on Model 767 P&W JT9D series engines has only a hydraulic isolation valve, no motorized isolation valve. Therefore, for example, the instruction in paragraph 3.B.4. of Boeing Alert Service Bulletin 767-78A0089 to "Deactivate the Motorized Isolation Valve and the Stow Valve \* \* \*" cannot be done because there are not two valves to deactivate on the thrust reverser system on Model 767 P&W JT9D series engines.

These observations were part of the commenter's request for us to withdraw the proposed AD. We do not concur with this request. However, we acknowledge that the wording of the instructions in paragraphs 3.B.4. and 3.L.1. of Boeing Alert Service Bulletin 767-78A0089 is somewhat confusing.

Since we issued the notice of proposed rulemaking (NPRM), Boeing has issued Alert Service Bulletin 767-78A0089, Revision 1, dated May 30, 2002. Among other changes, Revision 1 of the service bulletin corrects the errors in the work instructions of the original issue of the service bulletin to which the commenter refers. Therefore, for clarification, we find it appropriate to revise paragraph (a) of this final rule to refer to Revision 1 of the service bulletin as the appropriate source of service information for the actions required by that paragraph. Also, we have added a new paragraph (b) to this final rule to state that replacements accomplished before the effective date of this AD according to the original issue of the service bulletin are acceptable for compliance with this AD.

### **Allow Modification During In-Shop Maintenance**

One commenter requests that we revise the instructions of the referenced service bulletin to allow accomplishment of the replacement during maintenance, while the engine nacelle is off the wing, rather than with the engine nacelle mounted on the wing of the airplane. The commenter states that the service bulletin does not provide appropriate procedures for doing this. Specifically, the commenter requests that we revise the instructions in the service bulletin to provide for accomplishment of paragraphs 3.C. to 3.K. of the Work Instructions of the referenced service bulletin in the shop.

We agree that the service bulletin instructions need to be revised. As stated previously, since the issuance of the NPRM, Boeing has issued Revision 1 of the service bulletin. In addition to the changes explained previously, Revision 1 of the service bulletin adds a new Work Package III, which provides the instructions for modification of a spare thrust reverser that the commenter requests. We previously explained that we have revised paragraph (a) of this final rule to refer to Revision 1 of the service bulletin as the appropriate source of service information for the actions required by that

paragraph, and we have added paragraph (b) to this final rule to give credit for replacements accomplished before the effective date of this AD according to the original issue of the service bulletin. Therefore, no further change to this final rule is necessary.

### **Limit Number of Tests**

The same commenter requests that we reduce the number of post-replacement test cycles (extension and retraction of the thrust reverser to make sure it operates correctly), from three times, as specified in the service bulletin, to one time. The commenter states that, if the replacement is done with the engine nacelle in the shop rather than mounted on the wing, three test cycles are not necessary.

We do not concur. The commenter provides no data to justify its request, and we see no advantage to reducing the number of test cycles from three to one. However, if an operator considers that such a reduction in the number of test cycles will provide an acceptable level of safety, the operator may request approval of an alternative method of compliance with this testing requirement, as provided by paragraph (c) of this AD. No change to the final rule is necessary in this regard.

### **Reduce Compliance Time**

One commenter is concerned that the compliance time of 24 months allowed by the proposed AD may be too long. The commenter states, however, that it assumes that the FAA has carried out an appropriate risk assessment to justify the proposed compliance time.

We infer that the commenter is requesting that we reduce the proposed compliance time for the actions required by this AD. We do not concur. The commenter provides no data to justify its statement that the proposed compliance time may be too long. As stated in the proposed AD, in developing an appropriate compliance time for this AD, we considered not only the manufacturer's recommendation, but the degree of urgency associated with addressing the subject unsafe condition, the average utilization of the affected fleet, and the time necessary to perform the replacement. In light of these factors, we find that 24 months is an appropriate interval to allow affected airplanes to continue to operate without compromising safety. No change to the final rule is necessary in this regard.

### **Extend Compliance Time**

One commenter requests that we extend the compliance time for the proposed requirements from 24 months to 30 months. The commenter states that it would like to do the proposed replacement during a scheduled maintenance visit, but sufficient parts may not be available to allow for this.

We do not concur with the request to extend the compliance time for the actions required by this AD. Based on the latest information provided to us by the airplane manufacturer, an ample supply of required parts will be available within the 24-month compliance period. As stated previously, we find that 24 months is an appropriate interval for affected airplanes to continue to operate without compromising safety. No change to the final rule is necessary in this regard.

### **Explanation of Additional Change to Proposed AD**

For clarification, we have made minor revisions to the wording of Note 2 of this final rule.

### **Conclusion**

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes

previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

### **Cost Impact**

There are approximately 90 Model 767-200 and -300 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 26 airplanes of U.S. registry will be affected by this AD, that it will take approximately 12 work hours (6 work hours per engine) per airplane to accomplish the required actions, and that the average labor rate is \$60 per work hour. Required parts will cost approximately \$12,108 per airplane. Based on these figures, the cost impact of this AD on U.S. operators is estimated to be \$333,528, or \$12,828 per airplane.

The cost impact figure discussed above is based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

### **Regulatory Impact**

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

### **§ 39.13 [Amended]**

2. Section 39.13 is amended by adding the following new airworthiness directive:

# AIRWORTHINESS DIRECTIVE

Aircraft Certification Service  
Washington, DC



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

*We post ADs on the internet at "[www.airweb.faa.gov/rgl](http://www.airweb.faa.gov/rgl)"*

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2002-19-11 Boeing:** Amendment 39-12891. Docket 2001-NM-268-AD.

**Applicability:** Model 767-200 and -300 series airplanes powered by Pratt & Whitney JT9D series engines, certificated in any category.

**Note 1:** This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

**Compliance:** Required as indicated, unless accomplished previously.

To prevent failure of the thrust reverser deactivation pins, which could result in deployment of the thrust reverser in flight and consequent reduced controllability of the airplane, accomplish the following:

## **Replacement**

(a) Within 24 months after the effective date of this AD, replace the existing deactivation pin, pin bushing in the aft cascade mounting ring, and pin insert on each thrust reverser half, with new, improved components, according to Boeing Alert Service Bulletin 767-78A0089, Revision 1, dated May 30, 2002.

**Note 2:** The new, improved insert flange and pin bushing does not physically preclude use of a deactivation pin having P/N 315T1604-2 or -5. However, use of deactivation pins having P/N 315T1604-2 or -5 may not prevent the thrust reversers from deploying in the event of a full powered deployment. Therefore, thrust reversers modified per this AD are required to be installed with the new, longer deactivation pins having P/N 315T1604-6, as specified in the service bulletin.

## **Credit for Actions Accomplished According to Previous Service Bulletin Issue**

(b) Replacements accomplished before the effective date of this AD according to Boeing Alert Service Bulletin 767-78A0089, dated July 19, 2001, are acceptable for compliance with the corresponding action required by this AD.

## **Alternative Methods of Compliance**

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

**Note 3:** Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

## **Special Flight Permits**

(d) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

## **Incorporation by Reference**

(e) Unless otherwise specified in this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin 767-78A0089, Revision 1, dated May 30, 2002. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

## **Effective Date**

(f) This amendment becomes effective on November 5, 2002.

Issued in Renton, Washington, on September 19, 2002.

Vi L. Lipski,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 02-24405 Filed 9-30-02; 8:45 am]

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